

**SECURITIES AND EXCHANGE COMMISSION**  
**Washington, D.C. 20549**

**Form 6-K**

**Report of Foreign Private Issuer**

**Pursuant to Rule 13a-16 or 15d-16  
of the Securities Exchange Act of 1934**

For the month of February 2007

Commission File Number 000-51690

**Baja Mining Corp.**

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*(Translation of registrant's name into English)*

**2350 – 1177 West Hastings Street,  
Vancouver, British Columbia T2N 1X7**

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*(Address of principal executive offices)*

**Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.**

Form 20-F ☒

Form 40-F ☐

**Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):** ☐

**Note:** Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

**Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):** ☐

**Note:** Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

**Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.**

Yes ☐

No ☒

**If "Yes" is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b):** 82 -

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Signatures

Press Release dated February 7, 2007

### **SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**Baja Mining Corp.**  
(Registrant)

Date: February 8, 2007 \_\_\_\_\_ By: /s/ John Greenslade \_\_\_\_\_

John Greenslade  
President

February 7, 2007

TSX:BAJ

## **NEWS RELEASE**

### **BAJA MINING RELEASES UPDATED PRELIMINARY ECONOMIC ASSESSMENT OF BOLEO PROJECT**

Baja Mining Corp. (the “Company”) is pleased to release the results of the Updated Preliminary Economic Assessment (“Updated PEA”) for the Boleo project located at Santa Rosalia, Baja California Sur, Mexico. The update incorporates the results of 20,000 metres of an in-fill drilling program that was completed in early October 2006 as well as the capital cost estimate that has been prepared by Bateman Engineering (“Bateman”) and Wardrop Engineering (“Wardrop”) for the process plant.

The drill program continued through to the end of December 2006 and assay results from the remaining 18,000 metres of the program have now been received and are being incorporated into the Definitive Feasibility Study (“DFS”) that is anticipated to be completed around the end of March 2007. The DFS is based on the same capital cost estimate as the PEA and is not expected to materially change.

The Resource Estimate has been updated by Hellman & Schofield Pty Ltd (“H&S”) to include the results of the 20,000 metres of drilling. Using the H&S model, the underground mine plan has been developed by Agapito Associates, Inc. (“AAI”) of Grand Junction, Colorado, and the open cut plan has been developed by Australian Mine Design and Development (“AMDAD”) of Sydney, Australia.

All dollars are USD unless otherwise stated.

#### **Highlights:**

- Project economics are robust using conservative long term metal prices of \$1.25/lb for copper, and \$12.00/lb for cobalt;
- Cash cost of production of copper averages \$0.15/lb, net of by-product credits, for the 19 years after the start-up year;
- The 20 year project IRR (after taxes) is 19.0%;
- The after tax NPV (using an 8% discount rate) is US\$333 Million (Cdn\$392 Million). The Company currently has 108 million shares outstanding;
- If current metal prices were used, the IRR would be 40.6% and NPV would be \$1,457 million
- Annual metal production in the first four (4) full years of production (following the start-up partial year of 2009) averages 52,700 tonnes of copper cathode, 2,200 tonnes of cobalt cathode, and 10,000 tonnes of zinc contained in zinc sulphate monohydrate;
- Production of manganese carbonate remains an opportunity to enhance project economics;

- Project economics have been modeled for the first 20 years. A total of 58.5 million tonnes of ore will be processed during this period. Current measured and indicated resources total 232.8 million tonnes, leaving a large resource available for further development in the long term;
- An early start-up of the copper production circuit will provide revenue during the construction of the cobalt and zinc recovery circuits, reducing the financial risk;
- The project does not require external infrastructure support and produces all of its own requirements for power and desalinated water.
- The project will create over 600 full time jobs for the community of Santa Rosalia.

### **Project Description**

The Boleo Cu-Co-Zn-Mn project is located on the east coast of Baja California Sur, Mexico near the town of Santa Rosalia. The deposit contains seven (7) mineralized seams, called “mantos”, stacked within a single formation, all dipping gently to the east towards the Sea of Cortez in a step-like fashion, due to post depositional faulting.

The Project consists of roughly 11,000 hectares of mineral concessions and 7,000 hectares of surface occupancy rights, each assembled as a contiguous titled block. The project is located within the “buffer zone” of the El Vizcaino Biosphere, a Mexican National environmental reserve. The required Environmental Impact Manifest (EIM), submitted in early 2006, was approved by the Mexican authorities in December 2006. A fully executed agreement was received by the Company in January 2007 allowing the project to be built and to operate in the biosphere.

The Project is to be developed as a series of underground mines using conventional soft rock mining methods, along with small open-cut mines feeding ore to a processing plant utilizing a two stage leaching circuit followed by solid/liquid separation and Solvent Extraction – Electrowinning to produce copper and cobalt as metal and zinc as zinc sulphate.

### **Resource Model**

In 2006, geological consultants, H&S produced a comprehensive resource model of the El Boleo deposit using two specific modeling approaches, namely a seam modeling approach for underground mine design and a 3D-block model approach for open-cut design. Statistical analysis of the assay data from each manto showed that the histograms of Cu, Co, Zn and Mn were not highly skewed, indicating that ordinary kriging was an appropriate estimation method. The reported Measured, Indicated and Inferred resource estimates for all mantos, based on Copper equivalent cut-off grades (defined as  $CuEq = Cu + 12Co/0.95 + 0.45Zn/0.95$ )<sup>1</sup> at grade thresholds of 0.5% and 1.0% CuEq are shown in the table below:

Resource		Cu Equiv Cut-off Grade	
		0.50%	1.00%
Measured	Tonnes (10 <sup>6</sup> )	59.4	53.2
	Cu Equiv%	2.15	2.30

Resource		Cu Equiv Cut-off Grade	
		0.50%	1.00%
	Cu%	0.86	0.94
	Co%	0.088	0.091
	Zn%	0.46	0.48
	Mn%	2.77	2.87
Indicated	Tonnes (10 <sup>6</sup> )	173.4	128.3
	Cu Equiv%	1.72	2.05
	Cu%	0.76	0.96
	Co%	0.055	0.064
	Zn%	0.54	0.60
	Mn%	2.74	3.06
Total M&I	Tonnes (10 <sup>6</sup> )	232.8	181.5
	Cu Equiv%	1.83	2.13
	Cu%	0.79	0.96
	Co%	0.064	0.072
	Zn%	0.52	0.56
	Mn%	2.75	3.00

Inferred	Tonnes (10 <sup>6</sup> )	202.6	114.3
	Cu Equiv%	1.32	1.76
	Cu%	0.46	0.66
	Co%	0.043	0.055
	Zn%	0.65	0.88
	Mn%	2.67	3.38

1. Mn is not considered in the equivalency formula.

### **Mining:**

The seam formation and low material strength of the mantos suggested that conventional “soft rock” mining methods such as those used in underground coal, potash or salt mining would be successful. Room-and-pillar mining using continuous miners was chosen because of the method’s flexibility for layout designs, its efficient recovery of resources and lower initial capital cost. The resource block model was used to define manto areas that could be mined. The basic criteria used were:

- Minimum mining height of 1.8m to allow working room for the machines. If the economic thickness of the manto was less than this it was diluted by the lower grade blocks above up to the 1.8m height;
- Maximum mining height of 4.2m, matching the reach of the continuous miner. Economic blocks above this height were ignored;

- The composited copper equivalent grade of the manto within the mining horizon exceeding a cutoff grade of 0.5% Cu. For mining purposes, the copper equivalent cutoff grade was calculated based upon base case metal prices and process recoveries for copper and cobalt; and
- An allowance for voids in old works and recovery of “retaque”, or previously mined stope fill in terms of both recovery and density.

Underground mining trials to test equipment, working methods and geotechnical ground responses to the chosen method were undertaken in two stages in the years 2005-2006 under the supervision of consultants, AMDAD and AAI. These tests were very successful and confirmed the suitability of continuous mining methods to the Boleo deposit. The average depth for the first 20 years of underground mining is expected to range between 75 metres and 150 metres, with primary access to the mantos by portals or adits.

Initial mining plans for both underground and surface mining targets for the primary mantos have been advanced by AAI and AMDAD to provide ore feed at targeted production levels and head grade based on process plant schedules. A limestone source, located on the Boleo property, has also been modeled as the source of calcium carbonate needed for process plant operations.

## **Process**

A fully integrated demonstration pilot plant campaign was conducted at SGS Minerals Services, Lakefield, Ontario from 5th – 24th June, 2006 on a bulk oxide sample of underground Boleo ore grading 2.18% Cu, 0.135 % Co, 0.49% Zn, 5.0% Mn and 8.26% Fe to verify process refinements that have been developed since the “proof of concept” pilot plant campaign that was conducted at SGS in November, 2004. Equipment vendor representatives and potential off-take parties witnessed the 2006 test campaign.

The process plant is being designed to produce and treat 2.6 million dry metric tonnes per annum of plant feed at an average head grade 2.2% copper, 0.1% cobalt and 0.6% zinc through an integrated hydrometallurgical facility to produce LME Grade ‘A’ copper cathode; high purity (>99.8% Co) cobalt cathodes and zinc sulphate monohydrate. It is intended to “de-bottleneck” the plant at production year five (5) to ensure that the copper cathode production levels remain close to 50,000 t/y as ROM head grade begins to decrease. Capital costs have been allowed by the Company for this eventuality.

The process plant design includes a 2,400 t/d acid plant with a cogeneration facility to produce electrical energy from the burning of sulphur. The design also includes a high efficiency heat recovery system to maximize the amount of electricity generated. It is expected that the acid plant will generate essentially all of the power requirements of the process and electrowinning plants as well as the desalinated water requirements. The leach circuit will utilize sea water. One of the heat recovery systems being proposed by vendors has been qualified and registered for carbon credits due to the avoidance of the use of carbon based fuels and resulting creation of greenhouse gases. The value of those carbon credits has not yet been incorporated into the economic analysis of the project.

Marketing of products is assumed to be through a metal trading company as an off-take partner. “Expressions of Interest” have been received from several potential partners and it is expected that transfer of title for the products would occur at, or close to, the plant gate to assist the company with minimizing working capital requirements.

### **Capital Costs:**

Capital costs have been prepared by Bateman, Wardrop, AMDAD, AAI and the Company. The estimated Direct Capital cost of the project, excluding working capital requirements, is \$397 Million. The total project cost, including Engineering, Procurement, and Construction Management, Owner’s Costs, and 12.5% Overall Contingency is \$540 Million. A summary of capital costs is listed below:

<b>Project Area</b>	<b>Capital Cost</b>
Mining & Tailings	\$50,402,773
Process Plant	\$201,279,013
Services & Infrastructure	\$128,868,557
Buildings	\$16,942,291
Direct Field Costs	\$397,492,633
EPCM	\$45,433,333
Owners Costs	\$35,681,264
Contingency	\$62,040,779
Total PEA value	\$540,648,009

### **Production and Operating Costs:**

Start-up of the process plant is scheduled for April 2009. Provision has been made for a ramp-up to full production capacity over the first 2 years. There is no cobalt or zinc sulphate production scheduled in year 1 and their recoveries will be reduced in year 2 while those circuits are being brought into production. As the first year is a partial year of production, it has not been included in the following tables:



Production Schedule					
	Yrs 2-5	Yrs 6-10	Yrs 11-15	Yrs 16-20	Average
Ore treated (000tonnes/yr)	2,600	3,100	3,100	3,100	2,900
Annual Production: (tonnes)					
Copper	52,700	43,900	37,900	23,600	38,000
Cobalt	2,200	2,300	2,100	1,600	2,050
Zinc Sulphate	33,600	37,100	34,200	19,400	30,300

### **Project Economics:**

Unit Operating Costs (\$/tonne ore treated)					
	Yrs 2-5	Yrs 6-10	Yrs 11-15	Yrs 16-20	Average
Mining	\$10.83	\$8.55	\$8.40	\$8.16	\$8.82
Process	\$22.77	\$21.63	\$21.62	\$18.00	\$20.85
G&A and Sales	\$2.40	\$2.12	\$2.01	\$1.42	\$1.95
Total	\$36.01	\$32.31	\$32.02	\$27.58	\$31.62

Project economics are presented for three cases: the Base Case; the "5 Year Average (3 year trailing plus 2 year leading) Price"

case; and the "Current Price" case.

Base Case: To generate commercially sound long-term plans for the Boleo project, the Base Case economics for the project have been developed using conservative long-term metal prices of \$1.25 per pound of copper, \$12.00 per pound of cobalt, and \$950 per metric tonne of zinc sulphate monohydrate. As the start-up date of the project is relatively well defined and in the near future (Q2 of 2009), the LME five (5) year forward price curve for copper has been used for pricing in the first three (3) years of production with an extrapolated transition to the long term price in the fourth year. Those prices (as of January 25, 2007) are \$2.20 in 2009, \$1.95 in 2010, and \$1.75 in 2011.

5 Year Price Case: For comparison purposes the project economics are also shown using the weighted average 3 year trailing/2 year leading price for copper and cobalt (\$2.20/lb and \$16/lb).

Current Price Case: The Base Case prices are considerably lower than current prices, which as of the end of January 2007 are approximately \$2.50, \$26.00, and \$1,500, respectively. A Case is shown using current prices but the Company does not expect that current prices will be sustained over the long term and the case is shown for comparative purposes only.

The project economic analysis is presented on a 100% equity financed basis.

Project Economic Summary			
	Base Case	5 year prices	Current Prices
IRR – pre-tax	23.1%	35.9%	48.0%
IRR – after tax	19.0%	30.2%	40.6%
NPV* @ 0% Discount rate	\$1,002	\$2,243	\$3,455
NPV @ 6% Discount rate	\$446	\$1,115	\$1,787

NPV @ 8% Discount rate	\$333	\$891	\$1,457
NPV @ 10% Discount rate	\$243	\$713	\$1,195

\*Note: all NPVs are After-Tax, and US\$ Millions.

### **Sensitivities:**

The project is most sensitive to 4 key variables: Copper price, Cobalt price, Capital Costs, and Operating Costs. The sensitivity of the After-Tax IRR and NPV (at 8% discount rate) relative to the Base Case are shown in the table below to indicate the effect of + or – 10% changes in the key variables.

	After Tax IRR				After Tax NPV @ 8% (\$Millions)		
	-10%	Base Case	+10%		-10%	Base Case	+10%
Copper price	16.0%	19.0%	21.7%		\$236	\$333	\$420
Cobalt price	18.1%	19.0%	19.9%		\$298	\$333	\$367
Capital Cost	21.5%	19.0%	16.6%		\$375	\$333	\$283
Operating Cost	20.7%	19.0%	17.1%		\$396	\$333	\$266

### **Opportunities:**

Several opportunities exist that could further enhance the value of the project. Some, such as tax rates, are beyond the control of the Company but others will continue to be examined while the DFS is being completed and beyond.

- 1) Mining: Incorporation of the remaining 18,000 metres of in-fill drill data may positively impact the Resource Model and the mine plans. The mine plans that have been used in this PEA are considered to be conservative.
- 2) Contract Mining: Discussions are being held with potential contract miners that could result in more efficient operation of the open cut orebodies, the limestone quarry, and construction of the tailings dam.
- 3) Manganese production: The production of manganese carbonate would require very little additional capital (about \$20 Million). It has not been included in this PEA, however, since the market is not as well defined as other base metals and including it at this time would increase the financial and technical risk of the project. Manganese carbonate can be used as an intermediate product for processing into other manganese products with higher values, such as electrolytic manganese dioxide and manganese sulphate. “Expressions of Interest” have been received from potential off-take parties for the manganese carbonate and the possibility of production will continue to be reviewed. If an average selling price of \$400/t of manganese carbonate is achieved the NPV<sub>8</sub> of the project could be enhanced by \$110 Million and the Cash Cost of Copper, net of byproduct credits, would be reduced by \$0.25/lb to a negative \$0.10/lb.

- 4) Sulphur Pricing: One of the largest operating cost components of the project is the delivered price of sulphur. It is assumed, for this evaluation, that sulphur is sourced in the southern USA and transported by rail to the port of Guaymas and barged across the Sea of Cortez to Santa Rosalia. An alternate proposal is being reviewed which could significantly reduce the delivered cost. It is expected that the review of the alternatives will be complete and available for inclusion in the Definitive Feasibility Study.
- 5) Tax Rates: The current corporate income tax rate in Mexico is 28% and this rate has been used for the project evaluation. The rate has been decreasing at a rate of 1% per year and it has been stated that the objective is to continue reducing it until it reaches 25%. However, this legislation has not been passed by the current Congress and it has not been assumed for this evaluation. Application of a 25% tax rate would increase the NPV<sub>8</sub> of the project by \$21 Million.
- 6) Diesel price: The diesel price used in this evaluation is \$0.50/litre, the current price. Mexican legislation allows for a rebate of the Mexican IEPS tax that is built into the price for the non-mobile (movement of people) use of diesel, and this project would qualify for that rebate. The rebate rate is set monthly, and is normally approximately 30%. For the recent few months the rate has been set at 0% and we have assumed that it will remain at 0%. If the rebate was to be re-enacted the NPV<sub>8</sub> of the project would increase by \$12 Million.
- 7) Minor metals: The Boleo deposit contains trace amounts of high value minor metals such as Indium, Germanium, Gallium and Rare Earth metals. The possible recovery of these elements will continue to be investigated.

William Yeo, of Hellman and Schofield Pty Ltd, a Qualified Person, has reviewed the Resource Model and the disclosure contained regarding the same herein and accepts responsibility for such disclosure.

**ON BEHALF OF THE BOARD OF DIRECTORS OF  
BAJA MINING CORP.**

*“John W. Greenslade”*

**JOHN W. GREENSLADE, PRESIDENT**

For further information please contact John Greenslade, President, at (604) 685-2323

*The statements made in this News Release may contain certain forward-looking statements. Actual events or results may differ from the Company's expectations. Certain risk factors may also affect the actual results achieved by the Company. The TSX has not reviewed and does not accept responsibility for the adequacy or accuracy of this release.*